UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,984	01/17/2002	Gernot von Haas	017399-0202	3228

22428 7590 06/03/2004

FOLEY AND LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER	
FONTAINE, MONICA A	
ART UNIT	**PAPER NUMBER**
1732	

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/047,984	VON HAAS, GERNOT	
	Examiner	Art Unit	
	Monica A Fontaine	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) *8-16* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *041802,052302*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election of claims 1-7 in the paper filed 4 May 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 8-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected apparatus, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Froese et al. (U.S. Patent 6,007,320), in view of Reiniger (U.S. Patent 4,933,125). Regarding Claim 1, Froese et al., hereafter "Froese," show that it is known to carry out a method for the continuous manufacture of wood material boards having a textured surface on at least one side (Abstract), comprising forming a mat of wood treated with a binding agent onto a continuously moving conveyor belt (Column 1, lines 17-32); introducing the mat between steel belts each circulating around one of an upper and lower frame part of a continuously operating press (Figure 1,

element 7); and after the step of introducing the mat, curing the mat in the continuously operating press to form an endless wood material by applying heat and pressure to the mat (Figure 1; Column 5, lines 40-44), wherein the continuously operating press comprises at least one endless metal mesh belt configured to circulate with a corresponding one of said steel belts and with the mat (Figure 1, element 10), wherein the metal mesh belt comprises a material having a thermal conductivity substantially higher than that of the corresponding steel belt and having a thermal expansion coefficient approximately equal to that of the corresponding steel belt (Column 3, lines 59-66; It is noted that the term "substantially" casts a very broad light on the limitation of the mesh belt's higher relative thermal conductivity.), wherein the metal mesh belt and the corresponding steel belt are configured to pass through an insulating tunnel, in a return run, to reduce heat loss by thermal radiation (Column 4, lines 29-39; It is noted that Froese's "heating tunnel" is analogous to applicant's insulation tunnel in that it prevents heat loss.), wherein the metal mesh belt is configured to pass by a heating mechanism, which is separated from the corresponding steel belt (Column 4, lines 9-12), wherein the heating mechanism is configured to heat the metal mesh belt to a different temperature than that of the corresponding steel belt (Column 4, lines 18-23, 54-47), and wherein the curing the mat comprises applying a pressure to the mat (Column 5, lines 40-44). Froese does not explicitly show using a heating tunnel to create the temperature difference between his mesh belt and his steel belt. However, since he generally teaches a "heating mechanism", in the absence of extraordinary results, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a heating tunnel instead of a heating roller because it is well settled that a reference must be considered for not only what it expressly teaches, but also

for what it fairly suggests and that the entirety of the reference disclosure, including unpreferred embodiments must be considered in determining obviousness. *In re Burckel* 592 F.2d 1175, 201 USPQ 67; *In re Lamberti* 545 F.2d 747 USPQ 278. Furthermore, Froese does not explicitly teach keeping the mesh belt at a temperature at least 40°C higher than that of the steel belt. However, he teaches maintaining a temperature difference between the two (Column 4, lines 22-23), and that the temperatures involved in the process are material-specific (Column 4, lines 54-64). Therefore, absent unexpected results, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to keep the mesh belt 40°C warmer than the steel belt in order to promote optimal processing conditions for a specific molding material. Finally, Froese does not teach a specific pressure which is applied on the mat. Reiniger shows that it is known to carry out a method of making a wood-based mat wherein curing of the mat comprises applying a specific pressure to the mat of at least 0.3 N/mm2 during a first at least 80% of a pressing time (Column 10, lines 62-65). Froese and Reiniger are combinable because they are concerned with a similar technical field, namely, that of molding operations which yield wood-based composite mats. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Reiniger's specific pressure in Froese's molding process in order to obtain the desired thickness and density of the product.

Regarding Claim 7, Froese shows the process as claimed as discussed in the rejection of Claim 1 above, including a method further comprising the step of preheating one or both face strata of the mat with steam (Column 4, lines 40-53), meeting applicant's claim.

Claims 1, 4, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Froese, in view of Reiniger, in further view of Bielfeldt (U.S. Patent 5,538,676), hereafter "Bielfeldt '676". Regarding Claim 1, Froese shows that it is known to carry out a method for the continuous manufacture of wood material boards having a textured surface on at least one side (Abstract), comprising forming a mat of wood treated with a binding agent onto a continuously moving conveyor belt (Column 1, lines 17-32); introducing the mat between steel belts each circulating around one of an upper and lower frame part of a continuously operating press (Figure 1, element 7); and after the step of introducing the mat, curing the mat in the continuously operating press to form an endless wood material by applying heat and pressure to the mat (Figure 1; Column 5, lines 40-44), wherein the continuously operating press comprises at least one endless metal mesh belt configured to circulate with a corresponding one of said steel belts and with the mat (Figure 1, element 10), wherein the metal mesh belt comprises a material having a thermal conductivity substantially higher than that of the corresponding steel belt and having a thermal expansion coefficient approximately equal to that of the corresponding steel belt (Column 3, lines 59-66; It is noted that the term "substantially" casts a very broad light on the limitation of the mesh belt's higher relative thermal conductivity.), wherein the metal mesh belt and the corresponding steel belt are configured to pass through an insulating tunnel, in a return run, to reduce heat loss by thermal radiation (Column 4, lines 29-39; It is noted that Froese's "heating tunnel" is analogous to applicant's insulation tunnel in that it prevents heat loss.), wherein the metal mesh belt is configured to pass by a heating mechanism, which is separated from the corresponding steel belt (Column 4, lines 9-12), wherein the heating mechanism is configured to heat the metal mesh belt to a different temperature than that of the

corresponding steel belt (Column 4, lines 18-23, 54-47), and wherein the curing the mat comprises applying a pressure to the mat (Column 5, lines 40-44). Froese does not explicitly show using a heating tunnel to create the temperature difference between his mesh belt and his steel belt. However, since he generally teaches a "heating mechanism", in the absence of extraordinary results, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a heating tunnel instead of a heating roller because it is well settled that a reference must be considered for not only what it expressly teaches, but also for what it fairly suggests and that the entirety of the reference disclosure, including unpreferred embodiments must be considered in determining obviousness. *In re Burckel* 592 F.2d 1175, 201 USPQ 67; *In re Lamberti* 545 F.2d 747 USPQ 278. Furthermore, Froese does not teach a specific pressure which is applied on the mat. Reiniger shows that it is known to carry out a method of making a wood-based mat wherein curing of the mat comprises applying a specific pressure to the mat of at least 0.3 N/mm2 during a first at least 80% of a pressing time (Column 10, lines 62-65). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Reiniger's specific pressure in Froese's molding process in order to obtain the desired thickness and density of the product. Finally, Froese does not explicitly teach keeping the mesh belt at a temperature at least 40°C higher than that of the steel belt. However, Bielfeldt '676 teaches maintaining a mesh belt at a temperature of 100°C and does not show a heated steel belt (Column 3, lines 13-14; It is noted that unless the method is taking place in a very hot room, there would easily be a 40°C temperature difference between a 100°C mesh belt and a non-heated steel belt.). Bielfeldt '676 and Froese are combinable because they are concerned with a similar technical field, namely, that of molding methods which yield

wood-based mats. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to keep Bielfeldt '676's temperature ratio during Froese's molding process in order to promote optimal processing conditions for a specific molding material.

Regarding Claim 4, Froese shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not teach keeping the mesh belt at a temperature at least 80°C higher than that of the steel belt. Bielfeldt '676 teaches maintaining a mesh belt at a temperature of 100°C and does not show a heated steel belt (Column 3, lines 13-14; It is noted that unless the method is taking place in a very hot room, there could be a 80°C temperature difference between a 100°C mesh belt and a non-heated steel belt.). Bielfeldt '676 and Froese are combinable because they are concerned with a similar technical field, namely, that of molding methods which yield wood-based mats. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to keep Bielfeldt '676's temperature ratio during Froese's molding process in order to promote optimal processing conditions for a specific molding material.

Regarding Claim 7, Froese shows the process as claimed as discussed in the rejection of Claim 1 above, including a method further comprising the step of preheating one or both face strata of the mat with steam (Column 4, lines 40-53), meeting applicant's claim.

Claims 2, 3, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Froese and Reiniger as applied to claim 1 above, and further in view of Bielfeldt (U.S. Patent 5,762,980), hereafter "Bielfeldt '980".

Regarding Claim 2, Froese shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show measuring density. Bielfeldt '980 shows that it is known to carry out a method of making a wood-based mat further comprising the step of measuring a density profile of the formed endless wood material board, after the step of curing the mat, wherein the heating mechanism is configured to heat the metal mesh belt to a temperature profile that directly depends on said density profile (Column 7, lines 18-31). Bielfeldt '980 and Froese are combinable because they are concerned with a similar technical field, namely, that of molding methods which yield wood-based mats. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to follow Bielfeldt '980's measuring step during Froese's and Reiniger's molding process in order to control the quality of the end product.

Regarding Claim 3, Froese shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show adjusting the density profile. Bielfeldt '980 shows that it is known to carry out a method of making a wood-based mat further comprising the step adjusting a symmetrical or asymmetrical raw density profile in the formed endless wood material board, by adjusting a heat input into the side of the mat which is to be textured (Column 7, lines 18-42). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to follow Bielfeldt '980's adjusting step during Froese's and Reiniger's molding process in order to control the quality of the end product.

Regarding Claim 5, Froese shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show a specific moisture content of the mat. Bielfeldt '980 shows that it is known to carry out a method of making a wood-based mat wherein said step of

introducing the mat comprises introducing the mat with a moisture content of less than or equal to approximately 9 weight percent (Column 4, lines 1-6). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Bielfeldt '980's moisture level for the mat in Froese's and Reiniger's molding process in order to obtain a desired moisture level in the final product.

Claims 2, 3, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Froese, Reiniger, and Bielfeldt '676 as applied to claim 1 above, and further in view of Bielfeldt '980.

Regarding Claim 2, Froese shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show measuring density. Bielfeldt '980 shows that it is known to carry out a method of making a wood-based mat further comprising the step of measuring a density profile of the formed endless wood material board, after the step of curing the mat, wherein the heating mechanism is configured to heat the metal mesh belt to a temperature profile that directly depends on said density profile (Column 7, lines 18-31). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to follow Bielfeldt '980's measuring step during Froese's, Reiniger's, and Bielfeldt '676's molding process in order to control the quality of the end product.

Regarding Claim 3, Froese shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show adjusting the density profile. Bielfeldt '980 shows that it is known to carry out a method of making a wood-based mat further comprising the step adjusting a symmetrical or asymmetrical raw density profile in the formed endless wood material board, by adjusting a heat input into the side of the mat which is to be textured (Column 7, lines 18-42).

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to follow Bielfeldt '980's adjusting step during Froese's, Reiniger's, and Bielfeldt '676's molding process in order to control the quality of the end product.

Regarding Claim 5, Froese shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show a specific moisture content of the mat. Bielfeldt '980 shows that it is known to carry out a method of making a wood-based mat wherein said step of introducing the mat comprises introducing the mat with a moisture content of less than or equal to approximately 9 weight percent (Column 4, lines 1-6). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Bielfeldt '980's moisture level for the mat in Froese's, Reiniger's, and Bielfeldt '676's molding process in order to obtain a desired moisture level in the final product.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Froese and Reiniger as applied to claim 1 above, and further in view of Kemerer et al. (U.S. Patent 5,458,477). Froese shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show spraying the mat with water. Kemerer et al., hereafter "Kemerer," show that it is known to carry out a method of making a wood-based mat comprising the step of spraying one or both face strata of the mat with water (Figure 1, element 84). Kemerer and Froese are combinable because they are concerned with a similar technical field, namely, that of molding processes with yield wood-based mats. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to spray water onto the mat, as in

Kemerer, during Froese's and Reiniger's molding process to cool the formed mat to specification.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Froese, Reiniger, and Bielfeldt '676 as applied to claim 1 above, and further in view of Kemerer et al. (U.S. Patent 5,458,477). Froese shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show spraying the mat with water. Kemerer et al., hereafter "Kemerer," show that it is known to carry out a method of making a wood-based mat comprising the step of spraying one or both face strata of the mat with water (Figure 1, element 84). Kemerer and Froese are combinable because they are concerned with a similar technical field, namely, that of molding processes with yield wood-based mats. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to spray water onto the mat, as in Kemerer, during Froese's, Reiniger's, and Bielfeldt '676's molding process to cool the formed mat to specification.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Froese and Reiniger as applied to claim 1 above, and further in view of Bielfeldt '676. Froese shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not teach keeping the mesh belt at a temperature at least 80°C higher than that of the steel belt. However, Bielfeldt '676 teaches maintaining a mesh belt at a temperature of 100°C and does not show a heated steel belt (Column 3, lines 13-14; It is noted that unless the method is taking place in a very hot room, there could be a 80°C temperature difference between a 100°C mesh belt and a non-heated steel

belt.). Bielfeldt '676 and Froese are combinable because they are concerned with a similar technical field, namely, that of molding methods which yield wood-based mats. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to keep Bielfeldt '676's temperature ratio during Froese's molding process in order to promote optimal processing conditions for a specific molding material.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with regard to methods which form wood-based composite articles:

U.S. Patent 5,093,051 to Reiniger

U.S. Patent 5,160,411 to Bold

U.S. Patent 6,652,695 to Von Der Heide et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A Fontaine whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Colaianni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Maf
May 28, 2004

MICHAEL P. COLAIANNI
SUPERVISORY PATENT EXAMINER